

Appl. No. 09/965,253
Amdt. Dated 01/14/2005
Reply to final Office action of September 22, 2004

REMARKS/ARGUMENTS

Claims 1-30 are pending in the present application.

This Amendment is to support the Request for Continued Examination filed concurrently. In the Office Action dated September 22, 2004, the Examiner rejected claims 1-30 under 35 U.S.C. §103(a). Applicant has amended claims 1 to correct minor informalities. Reconsideration in light of the amendments and remarks made herein is respectfully requested.

Rejection Under 35 U.S.C. § 103

1. In the final Office Action, the Examiner rejected claims 1, 2, 5-7, 9-12, 15-17, 19-22, 25-27, 29, and 30 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,509,779 issued to Yue et al. ("Yue") in view of U.S. Patent No. 6,034,400 issued to Waggoner et al. ("Waggoner"), claims 3, 4, 13, 14, 23, and 24 under 35 U.S.C. §103(a) as being unpatentable over Yue in view of Waggoner and further in view of U.S. Patent No. 5,969,929 issued to Kleveland et al. ("Kleveland"), and claims 8, 18, 28 under 35 U.S.C. §103(a) as being unpatentable over Yue in view of Waggoner and further in view of U.S. Patent No. 6,414,849 issued to Chiu ("Chiu"). Applicant respectfully traverses the rejection and contends that the Examiner has not met the burden of establishing a prima facie case of obviousness.

Applicant reiterates the arguments set forth in the previously filed Response to the Office Action.

Yue discloses a system for providing electrostatic discharge protection for high-speed integrated circuits. An inductor is connected in series between a conductor and an ESD protection circuit via another conductor (Yue, Col. 3, lines 48-51).

Waggoner discloses an integrated circuit with improved electrostatic discharge protection including multi-level inductor. A circuit 110 has a special rail 102. Bias circuits B at the ends of the special rail 102 are connected to the high and low voltage supplies V_{DD} and V_{SS} (Waggoner, col. 6, lines 48-51). Diode D_1 connects the low voltage rail 114 to respective input bonding pads P, and diode D_2 connects P to the special rail 102 (Waggoner, col. 6, lines 65-67).

Kleveland discloses a distributed ESD protection device for high speed integrated circuits. A distributed ESD protection circuit uses a resistor in series with a diode as an ESD element (Kleveland, Col. 5, line 31-33). Another embodiment uses thick field oxide transistors

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for ESD elements. The circuit includes a pad, transmission line elements, diode configured NMOS transistors, and a buffer (Kleveland, Col. 5, line 46-50).

Chiu discloses a low stress and low profile cavity down flip chip and wire bond BGA package. A thermoset transfer molding process from a liquid crystal polymer (LCP) plastic is used to form package substrates, each having upraised standoff posts and a central cavity much deeper than the integrated circuit die thickness (Chiu, Col. 6, lines 64-67; Col. 7, lines 1-5).

Yue, Waggoner, Kleveland and Chiu, taken alone or in any combination, does not disclose, suggest, or render obvious (1) an inductor connected in series between an output of a high frequency circuit and an ESD circuit; and (2) an ESD clamp circuit coupled to the inductor via the ESD circuit between supply and ground terminals to clamp a supply voltage at a predetermined level.

Yue merely discloses an inductor used in conjunction with an ESD circuit. Waggoner merely discloses a bias circuit that is connected to a special rail, the high voltage rail, and the low voltage rail (Waggoner, col. 7, lines 15-16; lines 27-29), not a clamp circuit between supply and ground terminals to clamp a supply voltage at a predetermined level. Furthermore, Waggoner does not disclose or suggest an ESD circuit. Kleveland merely discloses various embodiments of a distributed ESD device. Chiu merely discloses a wire bond BGA package. None of them discloses or suggests a clamp circuit coupled to the inductor via the ESD circuit between supply and ground terminals.

The Examiner failed to establish a prima facie case of obviousness and failed to show there is teaching, suggestion or motivation to combine the references. "When determining the patentability of a claimed invention which combined two known elements, 'the question is whether there is something in the prior art as a whole suggest the desirability, and thus the obviousness, of making the combination.'" In re Beattie, Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 1462, 221 USPQ (BNA) 481, 488 (Fed. Cir. 1984). "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or implicitly suggest the claimed invention or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." Ex parte Clapp, 227 USPQ 972, 973. (Bd.Pat.App.&Inter. 1985).

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Therefore, Applicant believes that independent claims 1, 11, 21 and their respective dependent claims are distinguishable over the cited prior art references. Accordingly, Applicant respectfully requests the rejection under 35 U.S.C. §103(a) be withdrawn.

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Conclusion

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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